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(54) **MIX FOR SPONGE CAKE**

(57) Abstract.

PROBLEM TO BE SOLVED: To provide a mix for sponge cake having moist and palatable feeling in the mouth after baking and appearance with a large specific volume without deformation.

SOLUTION: This mix for sponge cakes comprises soft flour, sugars and a foaming agent as main ingredient. A blending ratio (weight ratio) of soft flour to medium flour and/or tapioca starch is (50-90):(50-5) and a blended amount of maltose and/or trehalose is 10-50 wt.% in the whole sugars.

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CLAIMS

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[Claim(s)]

[Claim 1] The mix for bakery products characterized by combining nature and/or a \*\*\*\* waxy cornstarch, and a pregelatinization starch as a starch raw material made into a principal component.

[Claim 2] a \*\*\*\* waxy cornstarch -- a phosphoric acid -- bridge formation -- the mix for bakery products of the claim 1 which is a waxy cornstarch

[Claim 3] The mix for bakery products of the claims 1 or 2 30 - 60 weight section and whose pregelatinization starches the inside of the mix whole quantity, nature, and/or a \*\*\*\* waxy cornstarch are 20 - 45 weight sections.

[Claim 4] The mix for bakery products of the claim 3 which furthermore carries out 10-40 weight section inclusion of the wheat flour.

[Claim 5] The mix for bakery products of the claim 1 whose pregelatinization starch is a pregelatinization tapioca starch, or either of 4.

[Claim 6] The bakery product which comes to calcinate the ground made using the mix of the claim 1 or either of 5.

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[Translation done.]

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] this invention relates to the bakery product which used the mix for bakery products, and it.

[0002]

[Description of the Prior Art] Conventionally, bakery products, such as a pan, a cake, and a biscuit, calcinate and manufacture the ground which prepared the wheat flour as a main raw material. Among these, a manufacture of the bakery product which performs yeast fermentation, such as a pan, requires time very much, and experience is needed in order to obtain a uniform product. Moreover, to obtain such a bakery product simple also in contractors, such as a restaurant and a bakery store, also in a home is desired.

[0003]

[Problem(s) to be Solved by the Invention] the fermentation according [ this invention ] to yeast -- not needing -- French bread soft type -- it has an appearance [ like ] and an internal phase and the feeling of a meal aims at offering the mix which can obtain the bakery product of the property which is not in the former which has the soft feeling of rice cake rice cake of Japanese liking simple

[0004]

[Means for Solving the Problem] this invention is a mix for bakery products characterized by combining nature and/or a \*\*\*\* waxy cornstarch, and a pregelatinization starch as a starch raw material made into a principal component.

[0005] this invention person had the good type which had a soft and thin envelope like soft type French bread, without needing yeast fermentation for the purpose of a development of the mix which can obtain a bakery product for a short time, and swelled, and inquired that the bakery product in which the internal phase had the network structure should be obtained. consequently, the thing to use combining nature and/or a \*\*\*\* waxy cornstarch, and a pregelatinization starch -- soft French bread -- although the appearance [ like ] and the internal phase were presented, the feeling of a meal found out that the bakery product moreover made soft moderate gently as rice cake rice cake was obtained

[0006] The food ground which uses a pregelatinization starch as the main raw material is indicated by JP,1-26662,B. This is food ground which makes a principal component the pregelatinized tapioca starch and comes to carry out

mixing molding with liquid nature materials, such as a suitable quantity of natural-cheese powder, xeransis milk and little water, fresh cow's milk, and an egg, at least. However, since a pregelatinization tapioca starch is a principal component, there is no softness and it is hard to call it the feeling of a meal of Japanese liking by the shape of rice cake with the hard feeling of a meal. moreover -- JP,4-91744,A -- a manufacture of pans -- facing -- the formation of alpha- of degree of swellings 4.0-3.5 -- bridge formation -- the method of manufacturing the pans which have a soft feeling of a meal is indicated by adding 0.5 - 10 % of the weight to the raw material farina which uses a wheat flour as the main raw material for a starch however, the formation of alpha- which the main raw material is a wheat flour and adds -- bridge formation -- let the starches especially be a potato starch, a sweet potato starch, and/or a sago starch preferably

[0007] this invention is a mix which makes a starch raw material a principal component, and is as above-mentioned a mix for bakery products characterized by combining nature and/or a \*\*\*\* waxy cornstarch, and a pregelatinization starch. In this invention, the mix for bakery products which makes a starch raw material a principal component is the thing of the status that the starch raw material which is a principal component, and auxiliary materials, such as an edible oil and fat, a salt, and sugar, were mixed uniformly, and what can add a liquefied raw material to this, can be mixed, can cast as occasion demands, and can obtain a bakery product only by calcinating is said.

[0008] Generally a bakery product is a product obtained by calcinating the ground which prepared wheat flours, such as a pan, a cake, and a biscuit, as a principal component. In this invention, the same configuration as these is presented and what has qualities, such as an appearance further made into the purpose, an internal phase, and a feeling of a meal, is called a bakery product.

[0009] A natural waxy cornstarch is the corn starch of a rice cake kind. Almost consists of an amylopectin to about 100%. Although usual starches are 20 - 25% of amyloses, and the mixture of 75 - 80% of amylopectins, the form which consists of only an amylopectin is in \*\*\*\*\* starches, such as rice and a Zea mays, and, generally they are called waxy (rice cake kind).

[0010] A \*\*\*\* waxy cornstarch carries out denaturation processing of the natural waxy cornstarch chemically, physically, and in enzyme. a \*\*\*\* waxy cornstarch \*\*\*\*\* -- a phosphoric acid -- bridge formation -- there are a waxy cornstarch, a pregelatinization waxy cornstarch, a etherification waxy cornstarch, an esterification waxy cornstarch, etc. These one or more sorts can be mixed and used also including a natural waxy cornstarch, and, moreover, the soft feeling of a meal is obtained as rice cake rice cake. moreover, the phosphoric acid among \*\*\*\* waxy cornstarchs -- bridge formation -- the waxy cornstarch is considering as rice cake rice cake, and is suitable for what obtains the softer feeling of a meal

[0011] a phosphoric acid -- bridge formation -- using phosphate, between amylopectin molecules, a waxy cornstarch performs little crosslinking reaction and a waxy cornstarch is obtained Among the above-mentioned mix whole quantity, if fewer than 30 weight section, the soft feeling of rice cake rice cake will not be obtained, but if there are more nature and/or \*\*\*\* waxy cornstarchs than 60 weight section, an envelope will become hard thickly and they will serve as sensibility that an internal phase's feeling of rice cake rice cake is also hard.

[0012] It is called a pregelatinization starch with Pregelatinized starch, Precooked starch, etc., the dehydration xeransis of the starch paste is carried out abruptly, and it is obtained, and although a drum dryer is generally used, a spray-dryer extrusion briquetting machine is also used. It is the characteristic feature not to need heating but to carry out swelling formation of a paste with cold water, and since the character of a raw material starch is reproduced, other properties can employ various properties efficiently by choosing a starch derivative suitably. As a pregelatinization starch, there are pregelatinization objects, such as a tapioca starch, a wheat starch, a potato starch, and corn starch. Although these one or more sorts can be mixed and used, the pregelatinization object of a tapioca starch is suitable for obtaining the feeling of a meal more used as rice cake rice cake, and a uniform swelling. Among the above-mentioned mix whole quantity, if there are few pregelatinization starches than 20 weight section, an envelope will become hard, if [ than 45 weight section ] more, an internal phase will not become a network structure but \*\*\*\*\* and elasticity will serve as the feeling of a meal of the shape of rubber with sufficient \*\*. By using combining nature and/or an above-mentioned \*\*\*\* waxy cornstarch, and an above-mentioned pregelatinization starch, it is considering as rice cake rice cake, and, moreover, the soft feeling of a meal and the bakery product with properties, such as swelling uniformly, and an internal phase having the network structure, and having a soft envelope, can be obtained.

[0013] Next, the wheat flour used for this invention has a desirable weak flour. During the above-mentioned mix, if fewer than 10 weight section, a soft thin envelope will not be obtained, but if there are more weak flours than 40 weight section, they will become what an internal phase's has inadequate admiration gently. Moreover, edible oil and fats can also be contained in the mix for bakery products of this invention. As edible oil and fats, shortening, butter, a vegetable liquid oil, an emulsifier, etc. can use the fats and oils usually used for a bakery product.

[0014] Moreover, it is satisfactory to use suitably seasoning, such as salt, sugar, other seasonings, a powder cheese head, and chocolate, for the mix for bakery products of this invention in any way. For example, if a powder cheese head is added, the bakery product of cheese-head flavor will be obtained.

[0015] this invention is a mix for bakery products which does not perform yeast fermentation which used nature and/or the \*\*\*\* waxy cornstarch, and the pregelatinization starch as the main raw material as above-mentioned. Nature and/or a \*\*\*\* waxy cornstarch can use 30 - 60 weight section and a pregelatinization starch by composition of 20 - 45 weight section among the above-mentioned mix whole quantity. Furthermore, 10-40 weight section inclusion of the wheat flour can be carried out. That is, 20 - 45 weight section and a wheat flour can use [ nature and a \*\*\*\* waxy cornstarch / 30 - 60 weight section and a pregelatinization starch ] by composition of 10 - 40 weight section among the above-mentioned mix whole quantity. nature and/or a \*\*\*\* waxy-cornstarch component \*\*\*\*\* -- a phosphoric acid -- bridge formation -- the case where a pregelatinization tapioca starch is used for a waxy cornstarch as a pregelatinization starch -- the inside of the above-mentioned mix whole quantity, and a phosphoric acid -- bridge formation -- as for a waxy cornstarch, a wheat flour can use 30 - 50 weight section and a pregelatinization tapioca starch by composition of 10 - 40 weight section 20 - 45 weight section and if

needed

[0016] A bakery product mix of this invention is obtained by mixing the above-mentioned matter and equalizing, and serves as a product by packing the specified quantity.

[0017] this invention is a bakery product which comes to calcinate the ground made using the above-mentioned mix. That is, it is the bakery product manufactured by blending liquefied raw materials, such as water, cow's milk, and \*\*\*\*, with the obtained mix for bakery products, mixing, considering as the ground, and calcinating it. To the aforementioned mix for bakery products, the bakery product in this invention carries out specified quantity addition combination, carries out stirring mixture of the liquefied raw materials, such as water, cow's milk, and \*\*\*\*, carries out a suitable amount split, casts slight roundness etc., and is obtained by calcinating in 170 degrees C - 250 degrees C oven for 15 to 40 minutes.

[0018] the bakery product obtained by this invention -- soft French bread -- it swells with an appearance [ like ], and a sufficient internal phase (network structure) and a sufficient form, and has a soft envelope, and the feeling of a meal of the internal phase of the network structure has a soft feeling of rice cake rice cake Moreover, it is gently made moderate, even if time passes, the feeling of a meal does not change, but softness is maintained, and storage nature is good.

[0019]

[Example] An example explains the detail of the invention in this application. The invention in this application is not limited at all by these examples.

[0020] example 1 phosphoric acid -- bridge formation -- waxy-cornstarch 420g, 350g of pregelatinization tapioca starches, 150g of thin force wheat flours, 60g of edible oil and fats, and 20g of salt were mixed uniformly, and the mix was obtained 600g of water and 400g of \*\*\*\*s were added to the obtained mix, and it mixed, and considered as the ground. This was divided and rounded off in the suitable size, it calcinated for 30 minutes in 180-degree C oven, and the bakery product was obtained.

example 2 phosphoric acid -- bridge formation -- waxy-cornstarch 480g, 370g of pregelatinization tapioca starches, and 150g of thin force wheat flours were mixed uniformly, and the mix was obtained The bakery product was obtained from the obtained mix like the example 1.

Example 3 waxy-cornstarch 500g, 200g [ of pregelatinization tapioca starches ], 200g [ of thin force wheat flours ], 50g [ of edible oil and fats ], and powder cheese-head 30g and 20g of salt were mixed uniformly, and the mix was obtained. The bakery product was obtained from the obtained mix like the example 1.

Example 4 pregelatinization waxy-cornstarch 500g, 200g [ of pregelatinization tapioca starches ], 200g [ of thin force wheat flours ], 50g [ of edible oil and fats ], and powder cheese-head 30g and 20g of salt were mixed uniformly, and the mix was obtained. The bakery product was obtained from the obtained mix like the example 1.

example 5 phosphoric acid -- bridge formation -- waxy-cornstarch 400g, pregelatinization corn-starch 300g, 200g [ of thin force wheat flours ], 50g [ of edible oil and fats ], and powder cheese-head 30g and 20g of salt were mixed uniformly, and the mix was obtained The bakery product was obtained from the obtained mix like the example 1.

[0021] 400g [ of example of comparison 1 pregelatinization wheat starches ], 300g [ of pregelatinization tapioca starches ], 200g [ of thin force wheat flours ], 50g [ of fats and oils ], and powder cheese-head 30g and 20g of salt were mixed uniformly, and the mix was obtained. The bakery product was obtained from the obtained mix like the example 1.

Example of comparison 2 pregelatinization corn-starch 400g, 300g [ of pregelatinization tapioca starches ], 200g [ of thin force wheat flours ], 50g [ of fats and oils ], and powder cheese-head 30g and 20g of salt were mixed uniformly, and the mix was obtained. The bakery product was obtained from the obtained mix like the example 1.

400g [ of example of comparison 3 pregelatinization potato starches ], 300g [ of pregelatinization tapioca starches ], 200g [ of thin force wheat flours ], 50g [ of fats and oils ], and powder cheese-head 30g and 20g of salt were mixed uniformly, and the mix was obtained. The bakery product was obtained from the obtained mix like the example 1.

700g [ of example of comparison 4 pregelatinization tapioca starches ], 200g [ of thin force wheat flours ], 50g [ of fats and oils ], and powder cheese-head 30g and 20g of salt were mixed uniformly, and the mix was obtained. The bakery product was obtained from the obtained mix like the example 1.

example of comparison 5 phosphoric acid -- bridge formation -- waxy-cornstarch 745g, 150g [ of thin force wheat flours ], 60g [ of edible oil and fats ], and powder cheese-head 30g and 15g of salt were mixed uniformly, and the mix was obtained. The bakery product was obtained from the obtained mix like the example 1.

[0022] Combination of the mix for bakery products of the above-mentioned examples 1-5 and the examples 1-5 of a comparison was collected into Table 1. 20 persons' special panelist evaluated each bakery product of the above-mentioned examples 1-5 and the examples 1-5 of a comparison. An evaluation result is shown in Table 2.

[0023]

[Table 1]

配合 (単位 g)

		実施例1	実施例2	実施例3	実施例4	実施例5	比較例1	比較例2	比較例3	比較例4	比較例5
A	リン酸架橋デキストラーゼ	420	480	-	-	400	-	-	-	-	745
	ワキシンコーンスターチ	-	-	500	-	-	-	-	-	-	-
	$\alpha$ 化デキストラーゼ	-	-	-	50)	-	-	-	-	-	-
B	$\alpha$ 化小麦澱粉	-	-	-	-	-	400	-	-	-	-
	$\alpha$ 化コーンスターチ	-	-	-	-	300	-	400	-	-	-
	$\alpha$ 化馬鈴薯澱粉	-	-	-	-	-	-	-	400	-	-
	$\alpha$ 化タピオカ澱粉	350	370	200	200	-	300	300	300	700	-
薄力小麦粉		150	150	200	200	200	200	200	200	200	150
油脂		60	-	50	50	50	50	50	50	50	60
粉末チーズ		-	-	30	30	30	30	30	30	30	30
食塩		20	-	20	20	20	20	20	20	20	15

A : 天然および/または化工ワキシンコーンスターチ類

B :  $\alpha$ 化澱粉類[0024]  
[Table 2]



	外観	内相	食感外皮	食感内相
実施例 1	○	○	○	○
実施例 2	○	○	○	○
実施例 3	○	○	○	○
実施例 4	○	○	○	○
実施例 5	○	○	○	○
比較例 1	×	×	○	△
比較例 2	△	×	△	×
比較例 3	×	×	×	×
比較例 4	○	○	×	×
比較例 5	×	△	×	△

## 評価項目

外観	適度な膨らみ	○
	膨らみが足りない	△
	膨らみが悪い	×
内相	適度な網目構造	○
	つぶれているまたは空洞化している	×
外皮の食感	やわらかく薄い	○
	硬いまたはぼそつく	×
内相の食感	適度にしっとりしやわらかいモチモチ感	○
	ぼそぼそして硬いまたは弾力のあるゴム状の食感	×

[0025] The soft feeling of rice cake rice cake and appearance of examples 1-2 which were carried out gently were all also good. The feeling of rice cake rice cake and appearance of examples 3-5 which were gently made moderate were all also good. as mentioned above, the examples 1-5 -- it swelled puffily, and the envelope was soft, all were carried out gently and an internal phase's feeling of a meal had the soft feeling of rice cake rice cake for them The examples 1-4 of a comparison are the systems which made only the pregelatinization starch the principal component. The example 1 of a comparison lacks in a swelling, and serves as the feeling of \*\*\*\*\*. The example 2 of a comparison lacks in the softness of admiration or the feeling of rice cake rice cake gently, and is bad. [ of an appearance ] The appearance of the example 3 of a comparison is bad, and it is firmly [ as the external phase and an internal phase ] strong. [ of \*\*\*\*\* ] Although the swelling of the example 4 of a comparison is good, it serves as hard rubber-like feeling of rice cake. the example 5 of a comparison -- a phosphoric acid -- bridge formation -- although a crack is made, an appearance is bad, although it is the system which made only the waxy cornstarch the principal component, and rice cake rice cake is carried out a little -- hard -- \*\*\*\*\*

[0026]

[Effect of the Invention] fermentation by yeast -- not needing -- French bread soft type -- it can have an appearance [ like ] and an internal phase and the feeling of a meal can offer the mix which can obtain the bakery product which has a soft feeling of rice cake rice cake simple soft French bread -- it swells with an appearance [ like ], and a sufficient internal phase (network structure) and a

sufficient form, and has a soft envelope, and even if it makes it moderate gently and time passes moreover the feeling of a meal of the internal phase of the network structure has a soft feeling of rice cake rice cake, the feeling of a meal cannot change, but softness can be maintained, and storage nature can offer a good bakery product

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[Translation done.]